

## ABSTRACT

- A human-computer interface system and methods for providing intelligent, adaptive, multimodal interaction with users while accomplishing tasks on their behalf in some particular domain or combination of domains. Specifically, this system accepts user input via natural language text, mouse actions, human speech, whistles, gestures, pedal movements, facial or postural changes, and conveys results via natural language text, automatically-generated speech, and displays of graphs, tables, animation, video, and mechanical and chemical effectors that convey heat, tactile sensation, taste and smell.